

ABSTRACT

In a first magnetic film, two notches are formed separately by a given distance, and a first pole piece is located between the notches. The first pole piece includes a uniform width portion. A second magnetic film includes a second pole piece. In the first pole piece, if the height of the uniform width portion is defined by "TH1", and the depth of the uniform width portion to a top surface from a base plane of the first magnetic film is defined by "ND1", and the thickness of said gap film is defined by "WG", the relations of  $TH1 \geq 4WG$  and  $ND1 \geq 4WG$  are satisfied.